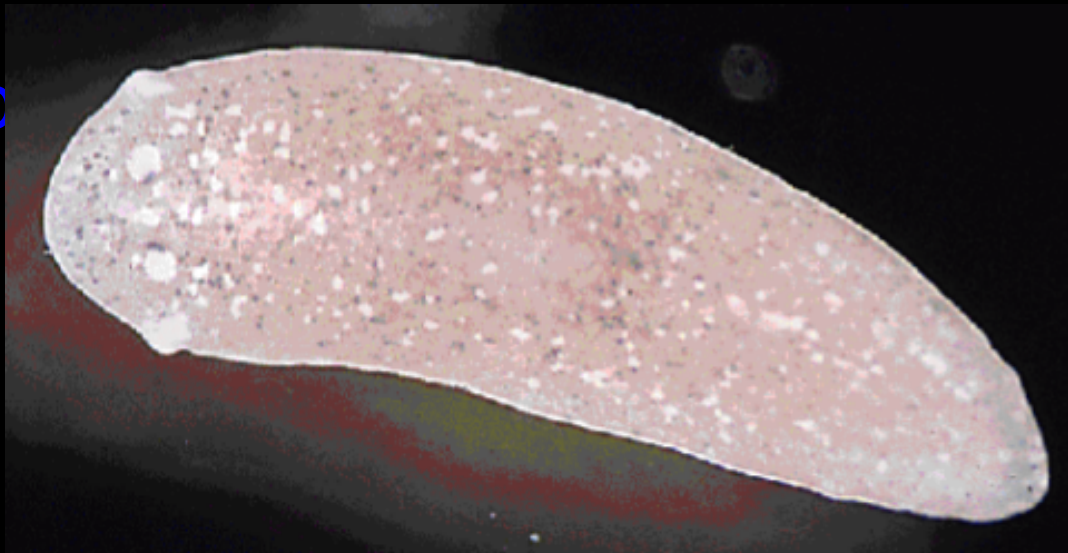


# The Animal Kingdom

# Phylum Platyhelminthes

By: Alyson Dickey and Garrett  
Zimmerman

- Food Chain: reef fish and hawksbill turtle feed on sponges
- Found on land, in both fresh and marine waters, as well as inside other mammals
- Most common organisms found in this group: Flatworms and Tapeworms
- There is no “oddball” in this group
- They are invertebrates living in or depending on the freshwater environment for some part of their lives
- This b... poda



- Flatworms can usually reproduce asexually or sexually.
- Flatworms are parasites and they live off of another living thing, also known as a host.
- Flatworms get food and nutrients they need from their host.
- A flatworm has a bilateral symmetry.
- A flatworm's body has three layers, but no internal cavity. The flatworm has a blind gut.
- They can be up to 10 mm long
- They use their body hairs to move
- The body has three layers of tiss





# Cites used

- <http://animaldiversity.ummz.umich.edu/site/accounts/information/Platyhelminthes.html>
- <http://answers.yahoo.com/question/index?qid=20080806065207AAMc22j>
- <http://answers.yahoo.com/question/index?qid=20080806065207AAMc22j>
- [http://wiki.answers.com/Q/The\\_type\\_of\\_symmetry\\_that\\_Mollusca\\_have](http://wiki.answers.com/Q/The_type_of_symmetry_that_Mollusca_have)
- <http://www.earthlife.net/inverts/platyhelminthes.html>
- [http://www.bugsurvey.nsw.gov.au/html/popups/bpedia\\_20\\_vtol\\_fl.html](http://www.bugsurvey.nsw.gov.au/html/popups/bpedia_20_vtol_fl.html)
- [http://wiki.answers.com/Q/What\\_phylum\\_and\\_class\\_does\\_the\\_common\\_octopu\\_s\\_belong\\_to](http://wiki.answers.com/Q/What_phylum_and_class_does_the_common_octopu_s_belong_to)
- <http://cas.bellarmine.edu/tietjen/images/dugesia.gif>

## Phylum Porifera: Savanna Hallman

1. Closed circulatory system and has no locomotion except for larval forms.
2. Filter feeders that eat plankton and have intracellular digestion.
3. Asexual and sexual reproduction.
4. Has no nervous tissues or systems and the stimuli is chemically triggered from cell to cell.
5. Emits toxic substances into the water to scare off other organisms what allows them to survive their environmental conditions?
6. They have no distinct respiratory system.
7. They have no muscle structure so they have to rely on the water current.
8. They cannot produce their own food so they are called consumers and eat other organisms.

9. Most porifera are found in the coral reef and be found on rocks or soft sediment, most are found in settle waters because sediment stirred up by currents would block their pores making it difficult to feed and breath.
10. There are many different kinds of sponges such as tube sponges and yellow sponges.
11. N/A
12. It is radial symmetrical.
13. Extinct porifera are calcarea innaecoelida and solenida and are extinct due to living in shallow costal waters.
14. They are important in taxonomy because of their skeletal elements.
15. Additional fact: an individual sponge consists of many types of cells , each with a particular function.
16. by: swee-cheng <http://www.flickr.com/photos/sweecheng/201008225/>

Stephaine Smith, Joe

Roberts Savanna Hallman



## Phylum Cnidaria/Coelenterata

1. What is its locomotion/circulatory system?
  - Locomotion: a form of jet propulsion muscles
  - Circulatory System: open
2. What does it eat and how does it digest?
  - It eats organic chemicals through predation, absorbing them when dissolved
  - It digests using the gastrodermal lining of the gastrovascular cavity
3. How does it reproduce?
  - Both, it can reproduce sexually and asexually. It reproduces asexually by splitting themselves horizontally.
4. How does it respond to stimuli?
  - By touch; if you touch it, it stings you which is its defense.

## Phylum Cnidaria/Coelenterata

5. How are they adapted to their surroundings?

-Many of them are in shallow waters because they depend on endosymbiotic algae. The food that provides them enough nutrients allows them to live there.

6. How does it breathe/exchange gases needed for survival?

-They absorb oxygen through their membrane-like skin.

7. What is the general structure of its body?

-They have a diploblastic body with two layers of cells; single opening in the body called as mouth that functions both as taking food and expelling wastes.

8. What is its place in the food chain?

-It is the first consumer of plankton and sea plants.



## Phylum Cnidaria/Coelenterata

9. What is the background of this group?

-Scientists have been ignoring jellyfish for decades. They are common interest in the east. Jellyfish have been spotted all the way as far as Hawaii, but they are from Africa.

10. What are other organisms in this group?

-Some other organisms in the Phylum Cnidaria group are Portuguese Man O' War and the Hydra.

11. What are the "oddball" in the group?

-There are no oddballs in the Phylum Cnidaria/Coelenterata group.

12. What is the type of symmetry of this group?

-Cnidarias has radical symmetry.



13. What is an example of an extinct species from this phylum?

-Moon coral; it is extinct because of pollution

14. What is their importance to human life?

-It is a food source for many ocean dwelling predators; keeps the corals stable.

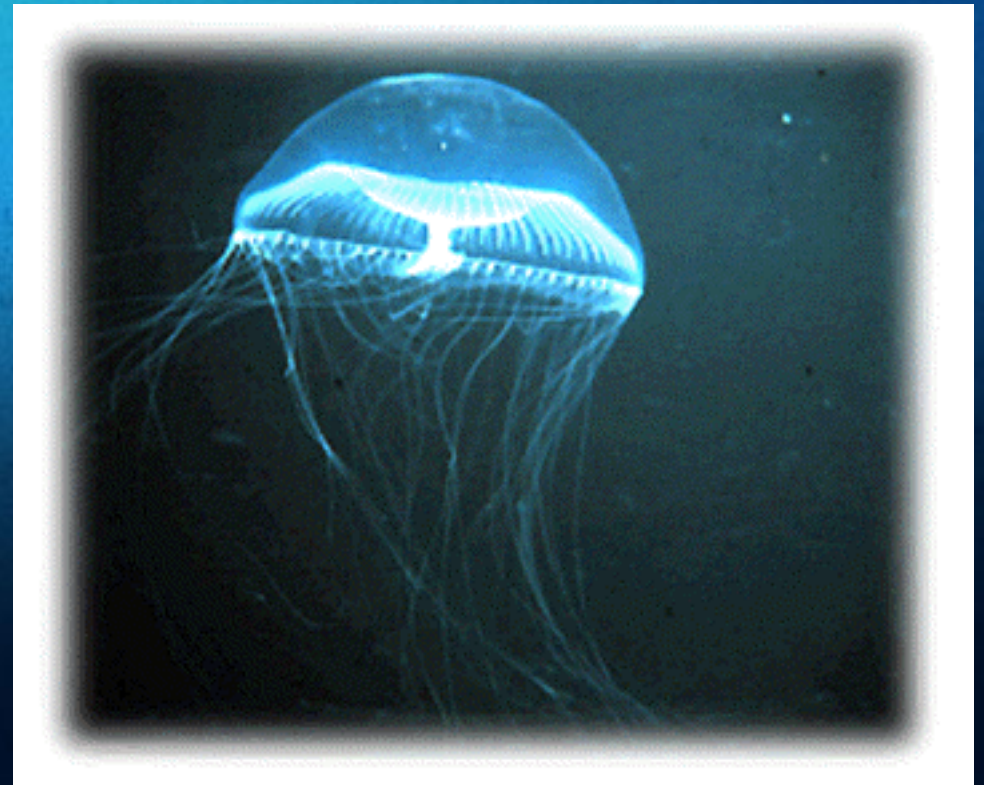
15. Additional Facts:

- Many Cnidarians are poisonous. A sting from these toxic animals can be helped by vinegar, however some of them are deadly like the Portuguese Man o' War.

Brett Wolfe

# Phylum Cnidaria/Coelenterata

## Photos of Jellyfish





# Phylum Echinodermata

## Transport

- Circulatory System- have a water vascular system, which is a network of liquid filled canals that function in gas exchange, feeding, and secondary circulatory system; open and reduced.

## Nutrition

- Different groups of echinoderms have different eating habits so it depends on which group to officially determine its eating habits.

## Reproduction

- many sexually, some asexually

## Responses to stimuli

- give an example - can be for defense, etc.

## Adaptation

- how are they adapted to live in their surroundings? - what allows them to survive their environmental conditions?

## Breathing

- how does it exchange gases needed for survival?

## General structure of the body

- 

## Place in food chain

- 

## Background of the group

- what they have in common, etc. Include interesting information about past history, places they are found

## Phylum Echinodermata

10.) Some Examples of Phylum Echinodermata organisms are starfish, sea cucumber, sea urchin, sand dollar, holothuroidea, polyplacophora, scyphozoa, echinoidea, and crinoida.

11.) Sea Cucumber- The sea cucumber is the “odd ball” of the Phylum Echinodermata organisms because unlike most other organisms in this group the sea cucumber doesn't have the hard outer shell and a spine. It also doesn't have the hard outer shell and a spine. It also doesn't have other important characteristics that the others do.

12.) Phylum Echinodermata have bilateral symmetry. Bilateral Symmetry- the property of being divisible into symmetrical halves on either side of a unique.

13.) Two species are currently on the endangered list- *Echinus esculentus* and *Isostichopus fuscus*. They have little value as food to humans, but they have some economic value being sold for aquariums.

14.) They offer important benefits to humans. Both sea urchins and sea cucumbers are popular foods in some cultures. Also, some varieties of sea cucumbers are considered to have medical properties. The sea urchin is a popular subject of embryological study. Aesthetically, the diversity and sometimes brilliant colors provide wonder and joy to humans.

15.) They can be found in every level of the ocean from the intertidal zone to the abyssal



# Phylum Echinodermata



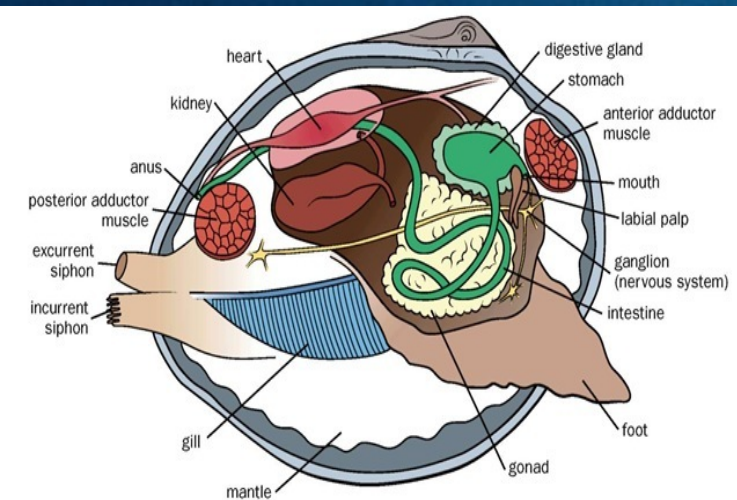
## Class Bivalvia (Phylum Mollusca)

- 1. Bivalvia have an opened circulator system. Bivalves are epifaunal which means they attach to surfaces, infaunal which mean they bury themselves in sediment, and they sometimes swim.
- 2. Once food particles enter the mouth they pass into the stomach where a combination of mechanical and chemical digestion breaks them into smaller particles.
- 3. Bivalves practice external fertilization, but some are hermaphroditism.
- **4. Yes, a clam, it is protected by the operculum which means going back into its shell. Some shells also have certain things on them to protect them from predators.**
- 5. Yes, the file shells produce noxious secretion when threatened, also fan shells that produce acid.
- 6. On each side of the foot is a pair of large, thin, dual purple gills. Gill hairs flail the water so it loops through the clams body.
- 7. The mantle forms a thin membrane surrounding the body which secretes the valves, ligament and hinge teeth. The shell are held together at the animal's dorsum by the ligament, which is composed of the tensilium and resilium.
- **8. Bivalves make up approximately one quarter of the world's aquaculture production. China is the top producer. Bivalves is the base of the food chain.**
- **9. Throughout history, bivalves have been one of the most important marine animals to humans. They have been used for food, jewelry, decoration, even money. They are found in the deepest part of the ocean floor, some of them wash up to the sand.**



# Class Bivalvia (Phylum Mollusca)

11. The Eukaryota include the organisms that most people are most familiar with - all animals, plants, fungi, and protists. It deals with the animals in the ocean.
12. The class bivalvia symmetry is a symmetrically rounded halves
13. *Epioblasma* species, *florentina walkeri*, *capsaeformis*, and *riqueira*.
14. This class provides food for people and other animals. They feed the world's society. The shell of the class bivalvia also are made into ornaments or for decoration. Also the pearl that comes from this class has a high price in jewelry.
15. Most of the class is found around the world in the oceans or in any





## Class Gastropoda (Phylum Mollusca)

- Gastropods have an open circulatory system. They are able to move around by slithering around on their stomachs.
- Gastropods are typically grazers when it comes to food. Algae is in their main diet. They scrape food off the surface where it enters the mouth and stomach and is digested, then rid of by the kidneys.
- Gastropods reproduce sexually and asexually. Some are hermaphrodites, while others mate with other gastropods.
- Gastropods respond to light, touch, chemicals, and moisture. For example, a slug will shrivel up if you put salt on it because the salt absorbs moisture.

## Class Gastropoda (Phylum Mollusca)

- Gastropods adapt to the environment by living in shells. They can move into a shell that will best suit the environment and protect against predators.
- Most gastropods have shells that house the vital organs like the stomach, kidneys, heart, and liver. The organs in a gastropod without a shell are located in the body. All gastropods have tentacles, eyes and a mouth on their head.
- Gastropods are at the bottom of the food chain because they are bottom feeders, feeding on plants and decayed organisms.



## Class Gastropoda (Phylum Mollusca)

- Gastropods have been around since the late Cambrian period. All Gastropods do not have legs, that is what makes it a Gastropod. An interesting fact about Gastropods is that they are hermaphrodites, meaning they are both male and female.
- Organisms in this group include snails and slugs as well as abalones, conchs, and limpets.
- The "oddball" of the group is the nudibranch because of its exotic color. It has no shell. It is a gastropod because of its body structure and way of motivation.
- Gastropods have bilateral symmetry, meaning if you split them in half down the middle, you would see a mirror image of each side.

## Class Gastropoda (Phylum Mollusca)

- An extinct gastropod is the bembexia. It was a small herbivore. It is guessed to have gone extinct because of it's small size and because it was a main food source for fish and small mammals.
- Land gastropods keep soil fertile. Marine gastropods are used in fish tanks to clean algae off the glass. They are widely used all over the world.
- A lot of people are taking interest in snails and slugs for the sake of their gardens. Snail life is usually 2 to 3 years. Slug life is usually 11-12 months.





# Class Cephalopoda (Phylum Mollusca)



## Class Cephalopoda (Phylum Mollusca)

1. They have a closed circulatory system. They move by using their tentacles (arms) to push them through the water.
2. They feed on shrimp, cod, herring, and sometimes plankton. They digest food by using a series of digestive gases. some of these gases are also used to actually catch and kill their prey.
3. They reproduce sexually.
4. They defend themselves by using ink. Each cephalopod (besides the Nautilidae and the species of octopus belonging to the suborder Cirrina) has an organ that can disperse ink. This blinds the predator long enough for it to swim away. Also, they can change their body color to blend in with their surroundings just like an iguana.

## Class Cephalopoda (Phylum Mollusca)

5. They adapt to their environment by blending their body colors. This disguise them so that predators don't see them.
6. They exchange gases with the sea water by forcing it through their gills. When the mantle cavity (attached to the roof of the organism) contracts, this is when the water is forced through the gills.
7. Cephalopods have tentacles. They live in the water so they do have gills. They have bilateral body symmetry. They have a prominent head and they do have arms.
8. Cephalopods are towards the top of the food chain. They are only eaten by a low number of things. But they eat a low number of things also.



## Class Cephalopoda (Phylum Mollusca)

9. They all have a prominent head, bilateral body symmetry, all have well developed sense organs, and a set of arms or tentacles. There is about 800 classified species. They can be found in all oceans on planet earth. None can tolerate fresh water although some can tolerate brakish water (water with a low salinity). They mostly are found closer to the equator deeper in the ocean and become more rare as you go towards the poles.

10. They most common organisms that people would recognize in the class would be the squid or the octopus.

11. Crabs are the oddball of the class.

12. All cephalopods have a bilateral body symmetry.

## Class Cephalopoda (Phylum Mollusca)

13. Different types of squid are endangered due to overfishing. The California Department of Fish and Game has put laws on how many squids you can catch and keep and when you get to your limit you either have to quit or practice catch and release.

14. Cephalopods are important to our lives because they are apart of our food system. Mostly towards coasts of the United States and other distant countries, different types of cephalopods are a delicacy either raw like sushi, or cooked for a meal. They are important for other organisms because they even out the population by consuming certain species which controls how many of that species is living. Also they are prey for some bigger, stronger species that eat them. They are important to our planet again because they can even out or control some species because they are consumers of that species.

15. They are awesome and very unique. (:



# Class Cephalopoda (Phylum Mollusca)

[http://en.wikipedia.org/wiki/Cephalopod#Circulatory\\_system](http://en.wikipedia.org/wiki/Cephalopod#Circulatory_system)

[http://wiki.answers.com/Q/What\\_do\\_squid\\_eat](http://wiki.answers.com/Q/What_do_squid_eat)

[http://wiki.answers.com/Q/How\\_do\\_squids\\_defend\\_themselves](http://wiki.answers.com/Q/How_do_squids_defend_themselves)

<http://en.wikipedia.org/wiki/Squid>

[http://www.earlham.edu/~merkeka/exciting\\_cephalopods.htm](http://www.earlham.edu/~merkeka/exciting_cephalopods.htm)

Matt Burke

# Phylum Platyhelminthes



## Phylum Nematoda: Stephanie Smith

1. Has an open circulatory system and its locomotion is protozoa that are organized around structures to help it move.
2. Eats bacteria and fungi found in the soil.
3. Sexual reproduction.
4. Responds to stimuli quickly with two openings, a mouth and an anus.
5. They adapt to their environment by living in the mammalian epithelium.
6. They breath across their entire body structure.
7. General structure of the body is a tube within a tube.
  8. They are consumers and feed on other organisms.

## Phylum Nematoda: Joe Roberts

9. Nematoda are found within such cadavers tend to be free-living soil saprophages.
10. Roundworm are related to nematoda.
11. N/A
12. Nematoda are radial.
13. Blastoid is an extinct nematoda due to the end of the Permian.
14. Nematodes are a major component of soil and sediment ecosystems.
15. Facts: certain parasitic nematodes are helpful including those who attack insects and are used to manage some harmful insects.
16. by: xxmy\_vampire\_heartxx's photostream  
<http://www.flickr.com/photos/25522817@N08/2401816658/>



## Phylum Annelida

1. Transport- The circulatory system is closed and segmentally-arranged.

Locomotion- The muscles in the worm contract, allowing it to move.

2. Nutrition- Worms eat fungus and bacteria as well as dead plants and leaves.

The digestive system consists of an anus and a mouth. They have special gills that exchange gases.

3. Reproduction- They have sexual reproduction with the exchange of sperm.

4. Defense- Worms will try to go back into the ground when grabbed or when exposed to heavy light

Chris Fairman

4. Defense- Worms will try to go back into the ground when grabbed or when exposed to heavy light.

5. Adaptation- When the weather gets colder or warmer, they go down deeper in the ground. When it rains, the worms come up on top of the ground.

6. Breathing- The worms breath through their skin, exchanging gases.

7. Structure- Worms have segmented bodies with longitudinal and circular muscle fibers. Then they have a moist, acellular cuticle that is secreted by an epidermal epithelium.

Chris Fairman



## DYLAN LETTIE

8. Bottom of the food chain

9. Worms have been around for millions of years. Ever since the first life has been on earth there has been some form of worm. Worms can be found almost everywhere on earth except in deserts and extremely dry areas.

10. Some other animals found in this group are leeches and polychaete worms.

11. The odd ball of the group is Polychaete worms. It is the odd ball because it has legs.

12. The type of symmetry that they are is Radial.

13. An example of an extinct member of this group is, I could not find any extinct members.

14. The importance of their lives to us is that they aerate the soil, provide food for larger animals that we eat, and they eat dead animals to keep the world clean.

15. Some additional facts about *Annelida* is that they have the ability to reproduce A-Sexually but most reproduce sexually.

## Phylum Arthropoda

- **Arthropods have open circulatory system but most have few short, open arteries.**
- **Arthropods eat/feed off other animals like spiders feed on other insects. The meat eaters mostly eat already dead animals.**
- **Arthropods reproduce both sexual and asexually. With sexual reproduction there are two different sexes internal fertilization for terrestrial species and external fertilization for aquatic species. And with Asexual reproduction, a new thing develops from an unfertilized egg. Usually occurs with ants and bees.**
- **Arthropods responses to stimuli are a series of movements.**



## Phylum Arthropoda

- **Arthropods are wetlands most important creatures therefore they adapt well and they are also at the beginning of the food chain so they provide for many other animals.**
- **Arthropods breathe using gills borne on appendages or body segments it is really cool to watch.**
- **Insects have six legs. Dragonflies are the coolest and can fly up to 64 kph. Arachnids have eight legs; spiders are the best-known one. And crustaceans have ten or more legs most of these are aquatic.**
- **Arthropods are 1<sup>st</sup> in the food chain, therefore they provide for many other animals such as frogs.**

## Phylum Arthropoda

- **Arthropods are the largest animal group on earth. They are found on land in trees in fresh water saltwater and underground. I think all of them are gross!**
- **Other organisms found in this group are spiders, flies, bees, and crabs.**
- **Shrimp! It doesn't have legs or anything. It is classified here because it has compound eyes and a segmented body.**
- **The type of symmetry an arthropod has is Bilateral Symmetry.**



## Phylum Arthropoda

- The Peacock tarantula is an endangered species in the arthropod group. It was first discovered in 1899 and wasn't seen again for 102 years.
- Arthropods are important because they provide food for a lot of animals and humans. And they also eat the insects like termites that try to destroy our timber. They also pollinate the plants, which keeps us alive.
- Arthropods are way more important than I thought! There are 1.1 million different kinds of arthropod! No two spiders webs are the same. And Every year, insects eat 1/3 of the earth's food crops.

## Chilopoda- Alysha Bridge

1. Transport ( internal such as open or closed circulatory system) and locomotion ( what does it use to get around?)

-It has a open circulatory system and it uses its many legs to get around.

2. Nutrition-what does it eat and how does it digest it?

- A lot of them soften there food by moistening then with there saliva. They also use there venomous fangs to sting there prey so its easier to eat. There food is digested by it turning into a liquid and it going through the Malpighian tubes.

3. Reproduction- is sexually.

4. Do they respond to stimuli? The answer is no they respond to ommatidia.



## Chilopoda- Alysha Bridge

5. Adaption- how are they adapted to their surroundings? What allows them to live in their environmental conditions.

- All of their features of their body help them to live. Their exoskeleton is a hard shell that helps them from harm and weather. They also have jointed legs which enables them to move quickly. And they also have compound eyes with thousands of lenses, so they are able to see very well.

6. Breathing- does it exchange gases for survival?

- yes

7. General structure of the body

- Normally have a lot of legs, a segmented body, they have joints between legs so that way they are able to move swiftly. They also have antennae and eyes with many lenses so they are able to see very well.

## Class Chilopoda (Phylum Arthropoda)-Morgan McFarland

### 8. Place in food chain

1. The centipede is the second consumer. It consumes insects, and soil invertebrates such as earthworms.

2. Badgers, birds, and toads are what eats centipedes.

### 9. Background of the group - what they have in common, etc. Include interesting information about past history, places they are found.

1. Centipedes come from the Latin Prefix; “hundred” and “foot”

### 10. the organisms found in that group - include the most common organisms people would recognize (plus a few others)

1. Common organisms in this group are centipedes. Some others are Arthropods.



## Class Chilopoda (Phylum Arthropoda)-Morgan McFarland

**11.** What "oddball" if any exists in that group that does not seem to fit in or is different than the others? Why is it classified here? What is the characteristic that puts it in the group?

1. The butterfly should not be in this group because it does not have a pair of legs to each segment.

**12.** Type of symmetry - radial, bilateral, asymmetrical

1. Arthropods have a bilateral symmetry.

**13.** An example of extinct or endangered members of the group and possible reasons for extinction/endangerment.

1. The now extinct Euphoberia was the largest centipede growing up to one Meter.

# Class Chilopoda (Phylum Arthropoda)-Morgan

McFarland

14. What is their importance to our lives, other organisms, or the planet? (economic, aesthetic, etc.)

1. The soil macrofauna from the Chilopoda near the tree trunks in a beech wood on limestone: indicates for stem flow induced changes in community structure.

15. Any other additional facts

1. Carnivores
2. Venimous

16. The following slides include our pictures:



# Centipede: Morgan McFarland



<http://en.wikipedia.org/wiki/File:Centipede.jpg>

<http://en.wikipedia.org/wiki/File:Centipede.protecting.eggmass.-.marshal.hedin.jpg>

# Centipede: Morgan McFarland



[http://en.wikipedia.org/wiki/Special:Search?  
search=chilopoda+class&go=Go](http://en.wikipedia.org/wiki/Special:Search?search=chilopoda+class&go=Go)

<http://en.wikipedia.org/wiki/Chilopoda>



A.S.  
J.K.

## Class Diploda (Phylum Arthropoda)



This picture found at  
<http://en.wikipedia.org/wiki/millipede>



## Class Diploda (Phylum Arthropoda)

- Diplopods can have anywhere from 36-400 legs that average one inch in size. When they move the protraction wave moves from back to front because one leg is touching down or lifting up slightly before the one directly ahead of them.
- They eat decaying wood and other vegetation. Diplopods use symbiotic microorganisms in their guts to break down the plant cellulose.
- Members of this class reproduce sexually.
- A response to a stimulant for members in this class would be that it can curl into a ball to protect itself from predators.
- To adapt, they can grow extra segments to respond to changes in the environment.
- They breathe through two pairs of spiracles--small openings on some animals--on each body segment with two legs. The spiracles open into an internal pouch and connects to a system of trachea.



## Class Diploda (Phylum Arthropoda)

- Their heads are rounded. They have two legs attached to each apparent body segment.
- In the food chain, members of the diplopoda class are primary consumers. This means they eat the plant and will get eaten by a secondary consumer.

- WHAT THEY HAVE IN COMMON

Millipedes have three body segments in front with one pair of legs each, and the rest with legs have two pairs of legs each (47 to 375

pairs of legs and 25 to 189 body segments, not counting head and tail).

- PAST HISTORY

They were around a long time ago.

- PLACES THEY ARE FOUND

Millipedes are found all over the world, and are most diverse in the humid tropical regions.

## Class Diploda (Phylum Arthropoda)

- This class includes the most common organisms people would recognize
  - *Glomeris marginata* , Helminthomorpha , and *Polyxenus lagurus* (centipedes, millipedes, pill bugs) are ones people would recognize.
- An odd ball in this group would be the pill millipede because it is much shorter and has fewer legs than most millipedes.
- Diplopods have bilateral symmetry, meaning one half is the same as the other.
- An example of an extinct or endangered member would be the *Cylindroiulus caeruleoinctus* and *Lulus scanicus*.
- Millipedes help humans and the environment by decomposing plant material into fertilizer for the soil, allowing humans to farm and plants to grow more easily.



## Class Diploda (Phylum Arthropoda)

### Resources

- <http://en.wikipedia.org/wiki/Millipede>
- <http://extension.missouri.edu/publications/DisplayPub.aspx?P=G7362>
- <http://www.britannica.com/facts/5/496982/millipede-as-discussed-in-locomotion-behaviour>
- <http://soilbugs.massey.ac.nz/diplopoda.php>
- <http://www.slideshare.net/jonsmeal/diplopoda>
- <http://doyourownpestcontrol.com/millipede.htm>
- <http://www.oxfordreference.com/pages/sample-15.htm>
- <http://bugguide.net/node/view/37>
- <http://www.biokids.umich.edu/critters/Diplopoda/>

## Class Crustacea (Phylum Arthropoda)

The species we were looking at  
were: Hermit Crab with a shell,  
Beach Hopper,  
Cray Fish,  
Sow Bug,  
Fiddler Crab,  
Mole Crab,  
Gooseneck Barnacle

What do they have in common?  
They are all water species  
They all have shells  
They all have legs  
They all have eyes  
They all live on the bottom of a  
shallow body of water.



## Class Crustacea (Phylum Arthropoda)

1. Transport (internal such as open or closed circulatory system) and locomotion (what does it use to get around)

They have an open circulatory system and have legs to move around.

2. Nutrition - what does it eat and how does it digest - describe briefly

They feed on scraps of dead creatures, they have a complete digest system.

3. Reproduction - asexual, sexual  
sexual

4. Responses to stimuli - give an example - can be for defense, etc.

They move from where they are to a different location or a different shell.

Example: a hermit crab switches shells.

5. Adaptation - how are they adapted to live in their surroundings? - what allows them to survive their environmental conditions?

they live in shallow water on the bottom so they have shells to protect them from predators and things that could squish them.

6. Breathing - how does it exchange gases needed for survival?

They use gills.

# Class Crustacea (Phylum Arthropoda)

## 7. General structure of the body

they have a head abdomen an thorax and an exoskeleton.

## 8. Place in food chain

They are at the top of the food chain, because many animals feed on them.

## 9. Background of the group - what they have in common, etc. Include interesting information about past history, places they are found.

What they have in common, etc. Include interesting information about past history, places they are found

They are characterized in this group because they all have

- branched appendages

- an exoskeleton made of chitin and calcium

- two pairs of antennae extending in front of the mouth

- paired appendages acting like jaws

- three pairs of biting mouth parts

## 10. Other organisms found in that group - include the most common organisms people would recognize (plus a few others)

millipedes and centipedes

## 11. What "oddball" if any exists in that group that does not seem to fit in or is different than the others? Why is it classified here? What is the characteristic that puts it in the group?

barnacles do not seem to fit into this group. it is classified here because it shares all the common characteristics of the group. although it does not have legs to move around with, it does have an exoskeleton/shell and lives in shallow tidal waters.



## Class Crustacea (Phylum Arthropoda)

12. Type of symmetry - radial, bilateral, asymmetrical

Radial

13. An example of extinct or endangered members of the group and possible reasons for extinction/endangerment

An example of an endangered crustacean is the Alabama Cave Shrimp. a possible reason for endangerment is over fishing or their environment or something they need to live is being destroyed.

14. What is their importance to our lives, other organisms, or the planet? (economic, aesthetic, etc.)

Many people do not understand the vital role arthropods play in keeping the world alive and healthy. Life on Earth would end very quickly without arthropods. Arthropods are great recyclers and decomposers and they are a super food source. They also help pollinate the plants that provide food and keep the air and water clean.

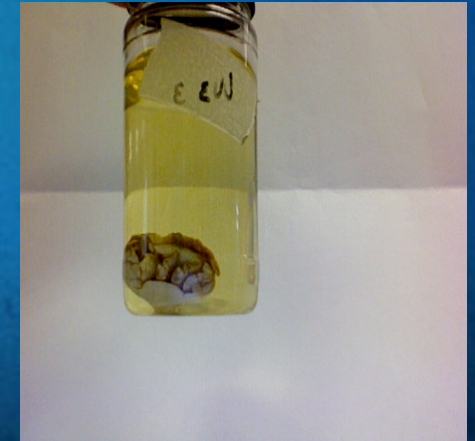
15. Any other additional facts

most if not all crustaceans are aquatic animals. and most live in the ocean or salt water.

Taylor Newcome  
Alicia Switlick

# Class Crustacea (Phylum Arthropoda)

16. All pictures must be copyright free and include the name of the owner of the pic (flickr creative commons), or the url where the pic is found (specific wikipedia article).



Taylor Newcome  
Alicia Switlick



## Class Arachnida (Phylum Arthropoda)

Arachnids get around on 4 pairs of legs. They have closed internal systems with in an exoskeleton.

They get nutrition by capturing bugs some use poison to kill prey.

They reproduce sexually Some lay eggs that hatch into mini versions of the parent. Some bear living young.

Arachnids are close to the top put there are predators that eat them.

## Class Arachnida (Phylum Arthropoda)

Some breathe using air tubes while others have primitive book lungs.

Some creatures that are in this group are Spiders, Scorpions, Ticks, Cave Spider, Harvestmen are some of the creatures in the Class. But spider is the one in the group that everyone recognizes.

They respond to stimuli- Spiders defense is its fangs and the scorpion has a tail that has a poison barb at the end.

They all have Bilateral bodies with four sets of legs.

Alexander  
Farmery



## Class Arachnida (Phylum Arthropoda)

They adapt to their surroundings so they can hide from predators such as birds by looking like a spot of mud etc.

They all have eight legs but some may use them for senses not to walk.

One extinct member of the group Haptopoda it lived during the carboniferous age it probably died in the fires that were caused by lightning strikes in the oxygen rich air. They look like harvestmen.







## Class Insecta (Phylum Arthropoda)

- They are a primary consumer on the food chain and are herbivores.
- On their body are three segments, the head, thorax, and the abdomen.
- Found all over the world
- Examples are bees, flies, and ants
- One organism that is different from the others in the group is *Arlus Cristatus* or the wheel bug. This creature had a tube-like mouth with a beak at the end. Which, is different from others because they have mandibles, tube-like mouths. It's anterior pair is leathery-like and shiny like bees.
- Insects have bilateral symmetry(it can be split in half and the halves resemble each other).
- Some extinct species are the Rocky Mountain Grasshopper and Xerces Blue Butterfly. They both went extinct because of habitat destruction and invasive species competition.
- Insects damage crops by eating leaves or fruits and some suck blood out of animals such as us. Some economic benefits are the silk worm and bees who make silk and honey.

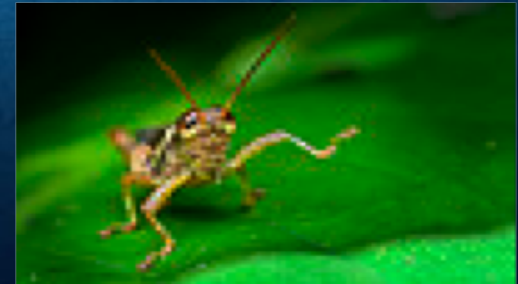
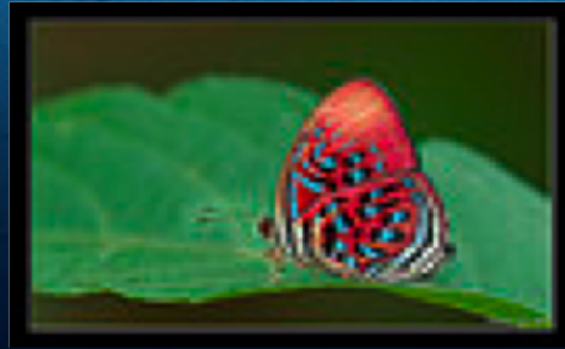
# Class Insecta (Phylum Arthropoda)

- This class is the largest of any in the animal kingdom.
- There are 800,000 known species.
- Also most successful of all life forms.
- Insects travel, using their wings or legs. They can fly, walk, run, glide, float, cling, crawl, drift, or hop.
- Their food processing occurs in the alimentary canal, a tube-like structure. They eat smaller animals and feed off of decaying animals. They also eat plants, fruits, manure, and fabrics.
- Insect reproduction is both asexual and sexual.
- Insects are cold blooded, therefore, they adapt to an environment by temperature. Some insects migrate to survive winter.
- Insects have a tracheae instead of lungs. air enters the tracheae by spores call spiracles.



# Class insecta (Phylum Arthropoda)

- All have a general appearance;
  - A hard outer covering, which must be shed periodically.
  - One pair of antennae.
  - A mouth part for licking, piercing, crushing, or sucking.
  - They have six legs, three pairs, found on the thorax.
- The three body parts of an insect are the head, thorax, and the abdomen.



# Class Insecta (Phylum Arthropoda)

## Resources Used:

- <http://www.mcwn.org/Animals/Insect.html>
- [http://www.biology-online.org/dictionary/Bilateral symmetry](http://www.biology-online.org/dictionary/Bilateral_symmetry)
- <http://www.eol.org/pages/15584511>
- <http://en.wikipedia.org/wiki/Insect>
- <http://greenanswers.com/q/131947/animals-wildlife/behavior/can-animals-change-their-place-food-chain>
- [http://www.earthsendangered.com/index s.asp](http://www.earthsendangered.com/index_s.asp)
- <http://animaldiversity.ummz.umich.edu/site/accounts/information/Insecta.html>



# Class Insecta (Phylum Arthropoda)

## Resources;

<http://www.infoplease.com/ce6/sci/A0858839.html>

<http://insects.about.com/od/adaptations/p/wintersurvival.htm>

<http://www.suite101.com/content/insects-lesson-plan-a22214>

<http://en.wikipedia.org/wiki/Insect>

<http://www.cartage.org>.

[1b/en/themes/sciences/zoology/Insects/ClassInsecta/ClassInsecta.htm](http://en/themes/sciences/zoology/Insects/ClassInsecta/ClassInsecta.htm)

# Class Merostomata (Phylum Arthropoda)- Cullen Jenary, Levi Sikora

1. Arthropods have a open circulatory system that consist of a dorsal heart, and a system of arteries that may be limited or extensive. Most walk, but certain species swim hop fly and wiggle. Some species of spiders are transported by the wind using silk as the parachute.
2. Most arthropods rely on small arthropods for their food. The food is eaten where it eventually makes it to the sucking stomach, which has heavy muscles that pump the partially digested food into the midgut; special enzymes digest the food.
3. Most arthropods reproduce sexually but some reproduce asexually.
4. When an arthropod feels endangered they use camouflage to either hide from predators or warn them to stay away. They also use their body such as flexing of spines etc., and actually mimic other animals that aren't preyed on by other animals.
5. Arthropods were the first to walk on land giving them the advantage. They are small in size, have adaptable exoskeleton, jointed appendages and were able to branch out to live everywhere from glaciers to the tropics, deserts and eventually conquered the air.
6. Aquatic arthropods breathe through gills. Air is brought into the body through spiracles in the exoskeleton.
7. All arthropods have segmented bodies, compound eyes, jointed legs, and a exoskeleton.
8. Arthropods are a major food source for most other animals and a few plants. Birds, reptiles, fish, and other arthropods eat them. Even people eat arthropods, such as shrimp, crab, or lobster. Plankton is an arthropod and most whales eat them.



# Class Merostomata (Phylum Arthropoda)- Cullen Jenary, Levi Sikora

9. Over 83% of all life are arthropods and got their start 500 million years ago. They are found all around the world and all throughout the ocean. All arthropods have an exoskeleton and compound eyes.
10. Some commonly known arthropods include shrimp, crabs “horseshoe crab & hermit crabs”, lobsters, barnacles, and krill.
11. Jumping spiders are a type of arachnid, but don't seem to fit in with other spiders. Instead of looking fierce and dangerous they actually are fluffy and doe-eyed. Unlike other spiders they don't use muscles to get around; they use a hydraulic action. They utilize fluid, which they pump around their system, that pushes to move limbs rather than pulls like a muscle. This allows them to jump eighty times their own height with having to use big, bulky legs like grasshoppers.
12. Arthropods have bilateral symmetry.
13. The most famous extinct arthropods is the trilobite. The trilobites were from the Cambrian era and the fossils of the trilobites are everywhere. They were endangered by the early fish because they were more intelligent and had faster metabolisms.
14. Arthropods are of great importance both directly and indirectly to humans. Lobsters, crab, and shrimp are eaten a lot by humans. Almost all of flowering plants are pollinated by arthropods.
15. Some interesting facts about arthropods are that there are 1.1 million species. There are more insects in one square mile of rural land than humans on the entire earth. Each year, arthropods eat 1/3 of the earth's food crops.

# Class Merostomata (Phylum Arthropoda)- By Cullen Jenary & Levi Sikora

<http://www.britannica.com/EBchecked/topic/36943/arthropod/42367/Circulatory-system>  
[http://wiki.answers.com/Q/How\\_do\\_arthropods\\_move\\_from\\_place\\_to\\_place](http://wiki.answers.com/Q/How_do_arthropods_move_from_place_to_place)  
<http://www.britannica.com/EBchecked/topic/31791/arachnid/47833/Digestion-and-nutrition>  
<http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0000336>  
[www.entomology.cornell.edu/.../Nicholas-Ledesma-Insect\\_Teacher-Resources.pdf](http://www.entomology.cornell.edu/.../Nicholas-Ledesma-Insect_Teacher-Resources.pdf)  
[www.entomology.cornell.edu/.../Nicholas-Ledesma-Insect\\_Teacher-Resources.pdf](http://www.entomology.cornell.edu/.../Nicholas-Ledesma-Insect_Teacher-Resources.pdf)  
<http://www.cals.ncsu.edu/course/ent425/tutorial/respire.html>  
<http://www.dsb1.edu.on.ca/ecocampbickell/Golden%20Avenue%20Grade%206/website/characteristics.htm>  
<http://answers.yahoo.com/question/index?qid=20090104054305AAe4X0s>  
[http://evolution.berkeley.edu/evolibrary/article/0\\_0\\_0/arthropods\\_01](http://evolution.berkeley.edu/evolibrary/article/0_0_0/arthropods_01)  
<http://www.enchantedlearning.com/subjects/invertebrates/arthropod/Arthropodprintouts.shtml>  
<http://weirdimals.wordpress.com/category/arthropods/>  
<http://www.wisageek.com/what-are-some-extinct-arthropods.htm>  
<http://www.britannica.com/EBchecked/topic/36943/arthropod/42361/Importance>  
[http://www.bukisa.com/articles/41743\\_amazing-facts-about-arthropods](http://www.bukisa.com/articles/41743_amazing-facts-about-arthropods)



# Class Merostomata (Phylum Arthropoda)- By Cullen Jenary & Levi Sikora

- <http://www.flickr.com/photos/28757974@N00/3905210956/in/photostream/>- Photo taken By: La tartine gourmande



## Class Agnatha (Phylum Chordata)



# Class Chondrithyes (Phylum Chordata)

By: Kasey Martz & Tionna McMahan



Bull Shark- By Heal the Bay  
Found at <http://www.flickr.com/photos/healthebay/4402729086/sizes/l/in/photostream/>

# Class Chondrichthyes (Phylum Chordata)- Kasey Martz, Tionna McMahan

**Transport-** Chondrichthyes move with their fins back and forth to move themselves. They take in oxygen through their gills and have a digestive system similar to humans. <http://en.wikipedia.org/wiki/Chordata>

**Nutrition-** They hunt for their food, and they have sharp teeth to kill their pray. They digest food like humans, and their digestive system is close to ours. <http://en.wikipedia.org/wiki/Chordata>

**Reproduction-** Sharks are sexually dimorphic. Now rays display internal fertilization. Most species will give birth to live young. <http://www.comfsm.fm/~brianl/chondrichthyes.html>

**Responses to stimuli-** They protect themselves with their teeth, and tail. The shark side of them use their teeth to eat. Most are calm around humans but sharks and sting rays can be aggressive. <http://en.wikipedia.org/wiki/Chordata>

**Breathing-** There are 5 gill openings on the underside of a rays body. Most rays breathe by taking in water through large openings on the upper portion of the head. Sharks must keep a constant flow of water through these gills slits. <http://www.comfsm.fm/~brianl/chondrichthyes.html>



## Class Chondrichthyes (Phylum Chordata)

**General structure of the body**- They have no lungs or swim bladder, cartilaginous endoskeleton. Skin covered by placoid scales and mucous glands; Teeth are modified placoid scales. <http://www.comfsm.fm/~brianl/chondrichthyes.html>

**Place in food chain** -They are high up in the food chain and feed on fish, and marine animals. <http://en.wikipedia.org/wiki/Chordata>

**Background of the group**- Chondrichthyes are jawed fish with paired fins, paired nares, scales, two chambered ears, and skeletons made of cartilage rather than bone. <http://en.wikipedia.org/wiki/Chondrichthyes>

**What "oddball" if any exists in that group that does not seem to fit in or is different than the others?** - Hagfish have incomplete braincases and no vertebrae, and are therefore not regarded as vertebrates, but as members of the craniates, the group from which vertebrates are thought to have evolved. <http://en.wikipedia.org/wiki/Chordata>

**Other organisms found in that group**- Some organisms found in the same group are the Bull Shark, Nurse Shark, Smooth Butterfly Ray, Bullnose Ray, and Small tooth Sawfish. [http://www.sms.si.edu/IRLSpec/Cl\\_chondr.htm](http://www.sms.si.edu/IRLSpec/Cl_chondr.htm)

# Class Chondrichthyes (Phylum Chordata)

**Type of symmetry-** They have bilateral symmetry, which means only one plane can divide an organism into roughly mirror image halves. [http://webcache.googleusercontent.com/search?q=cache:Er2dQlVc8bkJ:www.mtsd.k12.nj.us/6459125113162055/lib/6459125113162055/files/Chondrichthyes and Osteichthyes.ppt+are+chondrichthyes+bilateral&cd=3&hl=en&ct=clnk&gl=us&client=firefox-a](http://webcache.googleusercontent.com/search?q=cache:Er2dQlVc8bkJ:www.mtsd.k12.nj.us/6459125113162055/lib/6459125113162055/files/Chondrichthyes+and+Osteichthyes.ppt+are+chondrichthyes+bilateral&cd=3&hl=en&ct=clnk&gl=us&client=firefox-a)

**Extinction and Endangerment-** Some extinctions for this group is the Denaea, Echinochimaera, Megalodon, and Truistchius.  
[http://commons.wikimedia.org/wiki/Category:Extinct Chondrichthyes](http://commons.wikimedia.org/wiki/Category:Extinct_Chondrichthyes)

## **What is their importance to our lives, other organisms, or the planet?-**

They are important to are lives because some of them give us food such as sharks. They are also important to the planet because they play a major role in aquaculture, also known as aquafarming.

<http://www.britannica.com/EBchecked/topic/114261/chondrichthian/63387/Importance>  
<http://en.wikipedia.org/wiki/Aquaculture>

**Adaptation-** Sharks have to keep moving unless they will drown, and they really don't sleep. Also sting rays have thin bodies so that lets them hide in the sand. They both use smell to hunt their pray. <http://en.wikipedia.org/wiki/Chordata>



## Class Chondrichthyes (Phylum Chordata)

### Similarities of the Dogfish pup and Bull Fish

1. Flippers
2. Gills
3. Live in water
4. Have eyes

### Differences

1. Size
2. The Dogfish has more of a tail
3. The Dogfish has teeth like a shark, meaning very pointy.

## Class Osteichthyes (Phylum Chordata)

1. Bony fish have a closed single loop circulatory system. Bony fish use their tail fins to swim through the water.

<http://www.emc.maricopa.edu/faculty/farabee/biobk/biobookcircsys.html>  
transport

[http://www.seaworld.org/aquademics/tetra/all\\_about\\_fish.htm](http://www.seaworld.org/aquademics/tetra/all_about_fish.htm) - locomotion

2. Bony fish eat plankton and other fish.

<http://www.seaworld.org/animal-info/info-books/bony-fish/diet.htm>

Number 1-8 done by Jonathan Voss



## Class Osteichthyes (Phylum Chordata)

3. All bony fish reproduce sexually.

<http://library.thinkquest.org/C0124402/data/html/2/2reproduction.htm>

4. Most bony fish respond to sound. When a fish hears something in the water it starts to move its tail fin quickly so that it can move quickly.

[http://books.google.com/books?id=07UXE4gG3PcC&pg=PA77&lpg=PA77&dq=How+do+bony+fish+respond+to+stimuli&source=bl&ots=ucaVNbZF6n&sig=MKAQvE\\_xi78nkyxjMntTcNs0vUk&hl=en&ei=Vke8TLObCoO0lQfdlpnCDQ&sa=X&oi=book\\_result&ct=result&resnum=8&ved=0CDcQ6AEwBw#v=onepage&q=How%20do%20bony%20fish%20respond%20to%20stimuli&f=false](http://books.google.com/books?id=07UXE4gG3PcC&pg=PA77&lpg=PA77&dq=How+do+bony+fish+respond+to+stimuli&source=bl&ots=ucaVNbZF6n&sig=MKAQvE_xi78nkyxjMntTcNs0vUk&hl=en&ei=Vke8TLObCoO0lQfdlpnCDQ&sa=X&oi=book_result&ct=result&resnum=8&ved=0CDcQ6AEwBw#v=onepage&q=How%20do%20bony%20fish%20respond%20to%20stimuli&f=false)

## Class Osteichthyes (Phylum Chordata)

5. Osteichthyes are adapted to where they live because they have developed a strong tail fin for moving and they have also been able to find many different areas to hide from predators. An example is that a Perch lives close to shore so that larger fish can't eat them.

<http://www.wildernessclassroom.com/hsmb/2008/07/how-are-different-fish-species.html>

6. Fish breathe by opening their gills and sucking in water, when the water leaves through the gills the gills catch oxygen.

<http://www.waforkids.com/WAKI-ViewArticle.aspx?pin=wak-326001&article id=86&chapter id=1&chapter title=Animals&article title=How Do Fish Breathe>



Class Osteichthyes (Phylum  
Chordata)

7. Bony fish have an internal skeleton. The skeleton has ribs that go from the backbone down to the underbelly of the fish. This protects the fish's internal organs.

[http://cas.bellarmine.edu/tietjen/images/bony\\_fish.htm](http://cas.bellarmine.edu/tietjen/images/bony_fish.htm)

8. Bony fish are part of the tertiary consumer group. This is because they eat plants and other fish.

<http://library.thinkquest.org/11353/food.htm>

## Class Osteichthyes (Phylum Chordata)

9.) Background of the group - what they have in common, etc. Include interesting information about past history, places they are found – Evolved after the Devonian period. They are found everywhere.

10.) Other organisms found in that group - include the most common organisms people would recognize (plus a few others) Rainbow trout, Channel Catfish, Ocean Sunfish, Sea Horse, Emerald Shiner

11.) What "oddball" if any exists in that group that does not seem to fit in or is different than the others? Why is it classified here? What is the characteristic that puts it in the group? Sea Horse, because it does not have any fins like the most of the other fish in the group. It is the bony fish group because it has a vertebrae.

Number 9-16 done By Brandon Cressley



## Class Osteichthyes (Phylum Chordata)

- 12.) Type of symmetry - radial, bilateral, asymmetrical - Bilateral
- 13.) An example of extinct or endangered members of the group and possible reasons for extinction/endangerment – coelacanth, unknown reason for extinction.
- 14.) What is their importance to our lives, other organisms, or the planet? (economic, aesthetic, etc.) Bony fish make up to 95% of all fish species, so most of the fish we fish for and eat are Bony fish. It also is food for many predators. Without bony fish we would not eat near as much fish.
- 15.) Any other additional facts – Most fish in the world are Osteichthyes. There is more than 20,000 species

Class Osteichthyes (Phylum  
Chordata)



Photo By: Bill & Mark Bell



## Class Osteichthyes (Phylum Chordata)

### Sources:

<http://www.seaworld.org/infobooks/BonyFish/class.html>

<http://fernbank.edu/STT/VertBio/pages/Osteichthyes/osteichthyes.htm>

[http://www.woodbridge.tased.edu.au/MDC/Species%20Register/class\\_osteichthyes.htm](http://www.woodbridge.tased.edu.au/MDC/Species%20Register/class_osteichthyes.htm)

<http://science.jrank.org/pages/985/Bony-Fish.html>

## Class Amphibia (Phylum Chordata)

1. Amphibians have a three chamber heart with two atria and one ventricle. Blood that flows from the lungs to the left atrium is called pulmonary flow. Blood that flows from the body to the right atrium is called systemic flow. Both atria empty into the ventricle where they mix together. Amphibians have four legs and get around by either walking or swimming.

<http://faculty.clintoncc.suny.edu/faculty/michael.gregory/files/bio%20102/bio%20102%20lectures/circulatory%20system/circulat.htm>

2. Most amphibians, are carnivores, they eat spiders, insects and other invertebrates. Some carnivorous amphibians will even eat small mice, birds, lizards, snakes, fish, and even small crabs. Tadpoles are herbivores and scrape algae and other scum from rocks that are underwater.

<http://animals.jrank.org/pages/2/Getting-Know-Amphibians.html>

<http://library.thinkquest.org/5486/frogs.htm>

Amphibians take in food through their mouth with their tongue. They have rows of teeth to make sure the prey doesn't escape. The food then travels down to the simple digestive system containing a stomach and intestines.

<http://www.mcwn.org/Animals/Amphibian.html>



## Class Amphibia (Phylum Chordata)

3. Amphibians reproduce sexually.

4. Examples of stimuli.

- Poisonous dart frogs secrete poison through their skin. If an animal tries to eat it or if it feels threatened it releases its poisons and the animal will either die or get very sick.

[http://en.wikipedia.org/wiki/Poison\\_dart\\_frog#Toxicity\\_and\\_medicine](http://en.wikipedia.org/wiki/Poison_dart_frog#Toxicity_and_medicine)

- Frogs have moist skin and constantly are wetting so they can breathe through it since they don't have lungs.
- Female frogs have calling sounds so they're able to attract mates.

<http://en.wikipedia.org/wiki/Frog>

## Class Amphibia (Phylum Chordata)

### 5. Adaptations.

- Amphibians have webbed feet which allows them to swim and walk.
- They have thin skin to allow gaseous(breathing) and water exchanges.
- Their eyes rest on the top of their heads to give them a wider range of vision.
- The skin color is determined by their natural habitat and allows them to blend in well.

[http://www.torontozoo.com/adoptapond/curriculum/d3\\_popup1.html](http://www.torontozoo.com/adoptapond/curriculum/d3_popup1.html)

### 6. Breathing.

- Most amphibians breathe in through their nostrils and fill up their lungs, unless they have tiny or no lungs. If this is the case, amphibians breathe through their skin. Oxygen travels through the skin straight to the blood in the blood vessels. The skin must be moist for this process to work.

<http://animals.irank.org/pages/2/Getting-Know-Amphibians.html>



## Class Amphibia (Phylum Chordata)

### 7. Body Structure.

Amphibians generally have a broad and flat skull, no neck, and a small waist. This body structure helps them to swim better. The body of a frog is very similar to the body of a human.

<http://www.lookd.com/frogs/anatomy.html>

### 8. Food Chain.

A grasshopper eats the grass, which makes food from the sun. A frog then eats the grasshopper. A snake eats the frog, and the hawk eats the snake.

[http://www.google.com/imgres?imgurl=http://www.borealforest.org/school/food\\_chain.jpg&imgrefurl=http://www.borealforest.org/school/food\\_chain.htm&usq=\\_\\_yYqAn4OjumRI2SBMFPQTQ\\_ged-g=&h=204&w=204&sz=11&hl=en&start=0&sig2=BIEnzhiLARZLAITYhXwDDQ&zoom=1&tbnid=-mPbtc9DKwbEkM:&tbnh=108&tbnw=108&ei=dEu8TNeCKsSblgelx5zFDA&prev=/images%3Fq%3Damphibian%2Bfood%2Bchains%26um%3D1%26hl%3Den%26safe%3Dactive%26client%3Dfirefox-a%26hs%3DRAB%26sa%3DN%26rls%3Dorg.mozilla:en-US:official%26biw%3D1192%26bih%3D512%26tbs%3Disch:1&um=1&itbs=1&iact=rc&dur=285&oei=dEu8TNeCKsSblgelx5zFDA&esq=1&page=1&ndsp=19&ved=1t:429,r:1,s:0&tx=67&ty=33](http://www.google.com/imgres?imgurl=http://www.borealforest.org/school/food_chain.jpg&imgrefurl=http://www.borealforest.org/school/food_chain.htm&usq=__yYqAn4OjumRI2SBMFPQTQ_ged-g=&h=204&w=204&sz=11&hl=en&start=0&sig2=BIEnzhiLARZLAITYhXwDDQ&zoom=1&tbnid=-mPbtc9DKwbEkM:&tbnh=108&tbnw=108&ei=dEu8TNeCKsSblgelx5zFDA&prev=/images%3Fq%3Damphibian%2Bfood%2Bchains%26um%3D1%26hl%3Den%26safe%3Dactive%26client%3Dfirefox-a%26hs%3DRAB%26sa%3DN%26rls%3Dorg.mozilla:en-US:official%26biw%3D1192%26bih%3D512%26tbs%3Disch:1&um=1&itbs=1&iact=rc&dur=285&oei=dEu8TNeCKsSblgelx5zFDA&esq=1&page=1&ndsp=19&ved=1t:429,r:1,s:0&tx=67&ty=33)

9. All animals in the class Amphibia control their body temperature by their external means, skin. Amphibians evolved from fish in the Devonian Period and were the top predators in the Carboniferous and Permian Period but many were wiped out in the Permian-Jurassic extinction.

<http://en.wikipedia.org/wiki/Amphibian>

10. Frogs, salamanders, toads, newts, caecilians are all animals classified in the Amphibia group.

<http://en.wikipedia.org/wiki/Amphibian>



11. Caecilians are by far the “oddball” in the Amphibia class. They look very similar to an earthworm or a snake. They don't have arms or legs like a frog or salamander and their body structure is completely different but they can live both in or out on water and both have thin skin.

<http://en.wikipedia.org/wiki/Caecilian#Description>

12. Amphibians have bilateral symmetry.

## Class Amphibia (Phylum Chordata)

LG

### 13. Extinct/Endangered.

The Southern Leopard Frog is an example of an endangered amphibian. It is endangered because they are caught or raised by humans who then eat and sell their legs.

[http://www.fcps.edu/islandcreekes/ecology/southern\\_leopard\\_frog.htm](http://www.fcps.edu/islandcreekes/ecology/southern_leopard_frog.htm)

14. First off, amphibians are important to other organisms because they are part of food chains. They eat insects, which regulates the insect population. Other animals, like snakes, eat frogs, so without frogs, snakes won't have that organism to eat which could cause a reduction in the snake population.

<http://www.waterencyclopedia.com/A-Bi/Amphibian-Population-Declines.html>

Next, amphibians are important to humans because they eat insects which helps farmers so the insects don't eat their crops. Also, amphibians are parts of cultures and traditions around the world.

<http://www.actionbioscience.org/biodiversity/zippel.html>



# Class Amphibia (Phylum Chordata) LG

## 15. Other Facts.

- Amphibians were the first vertebrates to ever live on land.
- Frogs can breathe through their lungs and skin.
- 75% of the worlds amphibians live in the Amazon Rain Forest.

16.

<http://www.compfight.com/search/amphibia/1-3-1-1> by e\_monk





# Class Amphibia (Phylum Chordata) LG

## 16. Continued.



<http://www.flickr.com/photos/90055788@N00/34688635> by alumroot



<http://www.compfight.com/search/amphibia/1-3-1-1> by cotinis



<http://www.flickr.com/photos/37685385@N00/2463090913> by Cyrus khamak



# Class Reptilia (Phylum Chordata)

# Class Reptilia



# Reptilians

- Has a closed circulatory system
- They reproduce sexually
- Eat small invertebrates and tiny mammals
- When felt threatened or endangered they hiss, and run
- They adapt to there surroundings by increasing and decreasing there body heat to adapt to the changing climate around them

# Reptilians

- All reptiles breath through there lungs, they exchange gases in order to survive because
- The general structure of a reptile is that for example:
  - A lizards body is covered by scutes (scales) of different sizes, snakes have no limbs and the body is covered by scutes



# Reptilians

- A reptiles place in the food chain would be in either secondary or the tertiary consumer part of the food chain

# Reptilians

- Reptiles are vertebrates, cold blooded. Lay leathery eggs on land, young hatched in adult form, get oxygen from air using lungs, dry scaly skin
- Things that make up Reptiles are Snakes, turtles and lizards
- A weird form of Reptilians is the Crocodylia



# Reptilians

- The type of cemetery they have is Biolateral.
- A reptile that is in danger is the komodo Dragon the reason is because of hunting, loss of prey and habitat loss.

# Reptilians

- Some economic uses of Reptiles are they are used as a food source, crocodile skin, snake milking/ the colorful skins plus they can be sold as pets
- Some other facts about reptiles are they are found in every continent except Antarctica, There are more than 8000 reptiles in the world, they have existed for more than 300 million years and the extinct dinosaurs were reptiles

Cory G.



# Reptilians

- <http://www.flickr.com/photos/truebavarian/46040159/sizes/m/in/photostream/>
- [http://www.flickr.com/photos/naseer\\_ommer/2375426055/](http://www.flickr.com/photos/naseer_ommer/2375426055/)
- <http://www.flickr.com/photos/visbeek/3817392552/>
- Sources
- <http://animaldiversity.ummz.umich.edu/site/accounts/pictures/Reptilia.html>
- <http://en.wikipedia.org/wiki/Reptile>

Cory G.

# Class Aves (Phylum Chordata)





Nutrition- The first part of digestion starts with the beak some birds beaks are better adapted to eat other types of foods. such as the macaw for breaking nuts sense they have no teeth the food goes right down in to a part of there digestive system commonly known as the crawl. They also gather rocks or pebbles know as grit which is stored in the gizzard. the grit crushes up the food in the crawl and that is how a bird digests its food.

**Reproduce sexually.**

**Oddballs** - Emu, Ostrich, and relatives they are classified here because they are warm-blooded produce eggs, and have feathers.

All birds have the feathers, produce external eggs, and are warm-blooded. Birds are found all over the world even in arctic regions.

Birds are important to the world because they remove pests and are pleasing to the eye.

responses to stimuli: Many animals mate in the Spring. The males of certain species change their behavior in a way which will attract females, or the other way around. The



behavior of many species of birds can be used as a good example to illustrate this point. Many male birds start to sing in Springtime. Each species of bird has its own particular song to attract females of the same species.

Body structure: Birds have sharp beaks, have adapted wings for flight, and have long scaly legs.

adaptation: some birds beaks are adapted to eat other foods, and some birds feet are better adapted for there activities such are climbing, grasping food, and swimming

Bilateral symmetry

breathing: there breathing is similar to humans except that they don't have adiaphragm

The dodo's extinction was caused by predators being introduced to its habitat when its habitat originally did not have any predators



# Class Mammalia (Phylum Chordata)



Picture By Flickr user tim ellis

Jaelene Burkett  
Heather Giavedoni

# Class Mammalia (Phylum Chordata)

- Transportation

- Locomotion is with the front and hind legs. The circulatory system is closed. It has the respiratory and circulatory system.
- [http://en.wikipedia.org/wiki/Mammals#Reproductive\\_system](http://en.wikipedia.org/wiki/Mammals#Reproductive_system)  
[http://wiki.answers.com/Q/What\\_are\\_the\\_features\\_of\\_a\\_mammal](http://wiki.answers.com/Q/What_are_the_features_of_a_mammal)  
<http://answers.yahoo.com/question/index?qid=20090214105544AAelz0L>

- Nutrition

- There are carnivorous, herbivorous, and omnivorous mammals. Carnivores have a simple digestive system and herbivores have a complex one. Meat is easier to break down than plants. Omnivores would be somewhat complex because it eats both meat and plants.
- <http://en.wikipedia.org/wiki/Mammal#Feeding>

- Reproduction

- Mammals produce young sexually. A male must prove himself and show he is the toughest to "win" the female. The viviparous females have mammary glands that produce milk for their offspring. Monotremes, such as the Duckbill Platypus, lay eggs. Mammals, unlike most organisms, care for their young for months or even up to years.
- <http://www.mcwn.org/Animals/Mammal.html>
- [http://en.wikipedia.org/wiki/Mammal#Integumentary\\_system](http://en.wikipedia.org/wiki/Mammal#Integumentary_system)
- <http://www.suite101.com/content/mammalian-reproduction-and-offspring-care-a155003>



# Class Mammalia (Phylum Chordata)

- Response to Stimuli

- When mammals respond to a stimuli, the heart starts racing usually. It allows the animal to react very fast to get away from danger. The brain and spinal cord control this.
- <http://animals.about.com/cs/mammals/a/mam101aa.htm>

- Adaptation

- Mammals are endothermic and can control their heat. They can maintain a constant body temperature, which is why they can adapt so easily.
- <http://animals.about.com/cs/mammals/a/mam101aa.tm>

- Breathing

- Mammals have bellow lungs, which are like humans. They are a spongy texture and have more exterior area than interior.
- <http://www.wildanimalsonline.com/mammals/> [http://en.wikipedia.org/wiki/Mammal#Respiratory\\_system](http://en.wikipedia.org/wiki/Mammal#Respiratory_system)

- General Structure

- Mammals have:
  - A diaphragm
  - 4 heart chambers
  - Mammary gland and sweat glands
  - Hair or fur
  - Walk on four legs
- <http://www.animalsworlds.com/characteristic-of-mammals.html>
- [http://en.wikipedia.org/wiki/Mammal#Skeletal\\_system](http://en.wikipedia.org/wiki/Mammal#Skeletal_system)
- <http://www.earthlife.net/mammals/skeleton.html>

# Class Mammalia (Phylum Chordata)

- Place in the Food Chain

- Mammals are carnivores, herbivores, and omnivores. Carnivores are higher up than herbivores and omnivores would be lower than carnivores but higher than herbivores. Mammals will be near or at the top of the food pyramid.
- [http://wiki.answers.com/Q/What\\_3\\_characteristics\\_do\\_all\\_mammals\\_have\\_in\\_common](http://wiki.answers.com/Q/What_3_characteristics_do_all_mammals_have_in_common)



- Other Organisms

- Some organisms people would know are:
  - Rabbits
  - Dogs and Cats
  - Tigers and Lions
  - Bears and Wolves
  - Gorilla/Chimpanzee
- <http://www.arkive.org/mammals/>

- Background

- Mammals have many things in common some of them are they all produce live young, they also have three middle ear bones, they have hair, and mammary glands that produce milk.
- [http://wiki.answers.com/Q/What\\_3\\_characteristics\\_do\\_all\\_mammals\\_have\\_in\\_common](http://wiki.answers.com/Q/What_3_characteristics_do_all_mammals_have_in_common)

- "Oddball"

- The Duckbill Platypus and Echidna
- These mammals are monotremes and lay eggs. These species are mammals because they have other traits that put them under that category.
- <http://www.suite101.com/content/the-platypus-a23536>
- [http://www.answerbag.com/q\\_view/22745](http://www.answerbag.com/q_view/22745)



# Class Mammalia (Phylum Chordata)

- Symmetry

- Mammals are bilateral. This means if you cut them in half, they look the same on both sides.
- <http://www.mcwn.org/Animals/Mammal.html>

- Importance

- Animals are used as food, clothing, and transportation. We also use mammals, such as mice, to perform experiments on them.
- <http://www.earthlife.net/mammals/welcome.html>
- <http://www.animalaqua.com/importance-to-humans-mammal/>

- Endangered

- Tigers, Polar Bears, and the Giant Panda bear are three endangered species from a 2010 list.
- <http://www.suite101.com/content/endangered-mammals-and-threats-to-biodiversity-a231425>

- Facts

- There are at least 5000 mammals.
- Mammals are one of the smallest classes with only 4000 different species.
- Mammals share three things that no other animals have: 3 middle ear bones; hair; and mammary glands.
- <http://virtualology.com/classmammalia/classmammalia.com/>
- <http://www.stumblerz.com/facts-about-mammals/>
- <http://ezinearticles.com/?Interesting-Facts-About-Mammals&id=2912470>